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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,496	06/01/2001	Tetsuya Nakashima	209128US0	8803

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
BOLDEN, ELIZABETH A	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/870,496	NAKASHIMA ET AL.	
	Examiner	Art Unit	
	Elizabeth A. Bolden	1755	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,6,8,9,11,13-23 and 25-27* is/are pending in the application.

4a) Of the above claim(s) *17-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,6,8,9,11,13-16 and 25-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Any rejections and or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 5, 6, 8, 9, 11, 13-15, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohli et al., U.S. Patent 5,854,152.

Kohli et al. teach a glass composition comprising, in weight percent, 38-56 SiO_2, 10-28 Al_2O_3, 0-4 Li_2O, 0-6 Na_2O, 0-15 K_2O, 4-18 CaO, 0-5 MgO, more than 8 to 24 SrO, and 0-2 ZrO_2. See abstract of Kohli et al. Kohli et al. teach that 0-5 % TiO_2 can be added to the composition. See column 2, lines 28-34. Kohli et al. teach a range of thermal expansion coefficients from 60 to $90x^{-7}$/°C. See column 2, lines 12-14. Kohli et al. teach that the strain point of the glass is greater than 600°C. See column 2, line 6. These individual compositional and thermal expansion ranges overlap the individual compositional and thermal expansion ranges of claims 1, 3, and 5-7. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Kohli et al. differs from the instant invention by not specifically teach a combined range of ZrO_2+TiO_2 and Al_2O_3+TiO_2. However, the ranges of TiO_2, ZrO_2, and Al_2O_3 taught by Kohli et al. overlap the amounts of "ZrO_2+TiO_2" and "Al_2O_3+ TiO_2."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges disclosed by the Kohli et al. because overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

One of ordinary skill in the art would expect that a glass with overlapping compositional ranges would have the properties recited in claims 8, 9, 11, and 13-15.

Claims 1, 3, 5, 6, 8, 9, 11, 13-16, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miwa et al., U.S. Patent 6,162,750.

Miwa et al. teach a glass composition having overlapping ranges of components with instant claims 1, 3, 5, 6, 16 and 25-27. See abstract of Miwa et al. Miwa et al. teach that the glasses have a coefficient of thermal expansion in the range of $75x10^{-7}$ to $95x10^{-7}$/°C. See column 5, lines 55-58. These individual compositional and thermal expansion ranges overlap the individual compositional and coefficient of thermal expansion ranges of claims 1, 3, 5, 6, and 16. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Miwa et al. differs from the instant invention by not specifically teach a combined range of ZrO_2+TiO_2 and Al_2O_3+TiO_2. However, the ranges of TiO_2, ZrO_2, and Al_2O_3 taught by Miwa et al. overlap the amounts of "ZrO_2+TiO_2" and "Al_2O_3+ TiO_2."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges disclosed by the Miwa et al. because overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

One of ordinary skill in the art would expect that a glass with overlapping compositional ranges would have the properties recited in claims 8, 9, 11, and 13-15.

Response to Arguments

Applicant's arguments on pages 10 and 11, filed 21 January 2004, with respect to the 35 USC 103(a) rejections in view of Yoshii et al. have been fully considered and are persuasive. The rejections in view of Yoshii et al. of claims 1, 3, 5, 6, 8, 9, 11, and 13-15 have been withdrawn.

Applicant's arguments in view of the 35 USC 103(a) over Kohli et al., filed 21 January 2004 have been fully considered but they are not persuasive.

The Applicants argues that Kohli et al., (U.S. 5,854,152) does not disclose TiO_2 as a required glass component and that the reference does not disclose nor suggest the combined limitation of Al_2O_3+TiO_2 of at least 11 %. These arguments are not deemed persuasive. Kohli et al. does teach the use of TiO_2 in the glass. See column 2, lines 30-31. The Al_2O_3 and TiO_2 ranges of Kohli et al. overlap the claimed Al_2O_3 and TiO_2 and the combined Al_2O_3+TiO_2 ranges

of the instant invention. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Applicants further argue that the limitations of the combination of TiO_2 with Al_2O_3 are important components in the weathering resistance of the glass as shown in example 1-9 and 11-15 of Table 1. Where example 10 has high weathering resistance due to the high Al_2O_3 content of that example. This is not deemed persuasive since Applicants' Example 10 in Table 1, which contains no TiO_2, has comparable N_S and N_L values. Applicants' have shown no that the instant glasses have improved properties over the glasses of Kohli et al.

Applicant's arguments in view of the 35 USC 103(a) over Miwa et al., filed 21 January 2004 have been fully considered but they are not persuasive.

The Applicants argues that Miwa et al., (U.S. 6,162,750) does not disclose TiO_2 as a required glass component and that the reference does not disclose nor suggest the combined limitation of Al_2O_3+TiO_2 of at least 11 %. These arguments are not deemed persuasive. Miwa et al. does teach the use of TiO_2 in the glass. See abstract and column 4, lines 8-17. The Al_2O_3 and TiO_2 ranges of Kohli et al. overlap the claimed Al_2O_3 and TiO_2 and the combined Al_2O_3+TiO_2 ranges of the instant invention. Overlapping ranges have been held to establish *prima facia* obviousness. See MPEP 2144.05.

Applicants further argue that Miwa et al. use the addition of TiO_2 to the glass composition for an entirely different purpose. This is not deemed persuasive since the resultant glass would still have the recited amount of TiO_2 in the glass composition.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Bolden whose telephone number is 571-272-1363. The examiner can normally be reached on 9:30 am-7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EAB
15 April 2004

KARL GROUP
PRIMARY EXAMINER
GROUP 1755